

Selecting Females for Breeding

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The selection of the best females for breeding to produce the best male offspring can be one of the most challenging aspects of the hobby. Roughly about 15% of the male's phenotype (what the male looks like to the naked eye) is determined by its mother's genetic make-up. While this does not seem like a lot, when you examine show fish and the difference between first and fourth place, 15% improvement can be the difference between first placing and not placing.

Let's take a look at some of the traits that males may acquire from females. These traits are based on my experiences and the information that I have acquired during the breeding and raising of guppies, and the gathering of information from top breeders over the past forty years. They are not based on scientific research and the isolation of individual genes.

The size of the female has little to do with the mature size of her male offspring. I have had strains that sported very large males, while the females were medium to small sized. Conversely, I have seen a red strain with large, colourful, show winning females, while the males were tiny, drab looking fish. Consequently, when selecting females, I tend rank other criteria, such as body shape, tail shape and colour markings above the body size of the female.

The body shape of the female has a large amount of influence on the body shape of her male offspring. It is important that the female carry a thick and strong peduncle if her male offspring are to carry their large caudals properly. Furthermore, the length of the fish from the base of the dorsal fin to the beginning of the caudal fin should be limited. Females that are long and thin tend to produce males with weak peduncles and do not swim properly. The female's body should be symmetrical and she should carry her caudal fin with 50% of it above the lateral line. Females that carry their caudal below their body will produce males that tend to hang in the tank and not swim properly at maturity. Thus, the proper body shape is one of the most important characteristics of females when selecting breeders. I will select females with good body shape over females with better colour or finnage.

Females with box, delta or round shaped caudals produce males with the best caudal fin shape in their male offspring. I do not like females with a severe shark tails, as these tend to produce males with elongated rays on the top (or dorsal) half of their caudal fin. A good delta tailed female tends to produce the best tail shape in her male offspring, although many round tailed females have produced males with very good caudal fin shape in their male offspring in my tanks. Avoid females with uneven caudal fin edges, as these will inevitably produce males with uneven caudal growth.

The colour of the caudal fin in females is the most difficult trait to judge. In blues, greens and purples, I select the females with the lightest colour in the caudal. Dark colours or black in the caudals of these females translates to drab, dark colours in her male offspring. In greens, I try to use the females with clear caudals, as I have found this selection yields the purest colour in her male descendants. In reds and half-black reds, I select females with the most even colour and little or no pattern. I avoid females with white or lavender in the caudal in these colour lines. After selecting females with the cleanest colour, I will then select the females with the best colour. I prefer females with a good purity of colour over females with very bright caudals.

In most half-black strains, the half-black body pattern is carried by the female. In these strains, it is imperative to select the females with the darkest peduncles to ensure you will get male offspring with a good strong half-black pattern. I also select females with no bleeding of the half-black body pattern into the caudal fin. This is strongly inherited by the female's male offspring. Make sure the half-black body pattern does not extend up the body in front of the base of the dorsal fin.

The shape and colour of the dorsal fin in the female has less of a tendency to influence the dorsal fin in subsequent male generations. One should be careful to avoid breeding females with long ragged dorsal fins. While this may be attractive in the females, it frequently produces ragged dorsal fins in following generations. I prefer round or parallelogram shaped dorsal fins in females. If it is a variegated strain, then make sure the females show the same pattern in her dorsal fin.

Female Selection Check List

- Good body shape, symmetrical with a thick peduncle
- Even shaped caudal - delta, round or box shaped
- Pure caudal colour, lighter colours for blues, greens and purples. Red or lighter red for reds and HB reds, very clean colours for pastel coloured fish like HB pastels.
- Strong HB in HB strains, no bleeding into the caudal.
Round or parallelogram shaped dorsal with even edges.